City of
Santa Monica®

Water Resources Protection Programs
1212 5th, 3rd Floor
Santa Monica, California 90401

April 20, 2015

Mr. Craig Cross, MPPA
Water-Energy Grant Manager
California Department of Water Resources
Director of Integrated Regional Water Management
901 P Street, Bonderson Building, Room 213A
Sacramento, CA 94236-0001

Re: Comment and Clarifying Information - City of Santa Monica Water-Energy Grant Project

Dear Craig,

It was a pleasure meeting with you, Mr. Yun, and Mr. Saltsman this past Thursday. As we discussed last week, in our close reading of the Water Energy Grant Guidance Document, and the underpinning legislation for the grant funding, we believe our project meets the requirements for Water-Energy Grant funding. The project also embraces and meets the goals of the Governor's *California Water Action Plan* and recent State Board mandates for reduction of overall potable water use by urban water systems. We wish to apologize if our initial information was in any way unclear to the application package reviewers. As presented in our original grant application package, we meant to convey that the project will eliminate the use of potable supplemental water, a majority of it import, at the City's Santa Monica Urban Runoff Recycling Facility (SMURRF). In so doing the project will also simultaneously reduce greenhouse gas (GHG) emissions and energy use associated with the transportation of import water from distant watersheds. The estimated project lifetime (30 year) water-energy reductions detailed in the grant application package are:

- ~2.5 billion gallons (7,672 AF) of potable water,
- 8.9M kWh of energy, and
- 5,265 metric tons (CO_2e) GHG emissions.

Clarifying Information

The following clarifying details expand on the technical narrative previously provided in various parts of our Water-Energy Grant application package (e.g. Proposal Objective, Attachment 3 – Work Plan/Maps/Figures etc.). It is our hope that these details will communicate the principal intent of our project which is to permanently eliminate a significant source of import water use in the City, and thereby allow for the approval of 2014 Water-Energy Grant funding for this important water saving project.

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The SMURRF began operations in 2001 to treat and recycle dry-weather runoff and limited storm water discharges for Title 22 reuse. As designed, the SMURRF treatment capacity is approximately 500,000 GPD. The treated water is distributed via the City's existing purple pipe system to various City departments and to commercial customers for use in irrigation, toilets, street and sidewalk cleaning, and sewer system maintenance operations. Over the past decade and a half, the City has made significant strides in reducing the amount of dry-weather urban runoff through the use of community outreach, modifications to our municipal code related to runoff, and focused enforcement efforts. During this same period, the demand for treated SMURRF water has increased. The unintended consequence of the City's success at conservation and runoff reduction is that today, in order to meet current commitments for treated SMURRF water, the City has had to add supplemental water on a more or less daily basis to the SMURRF treatment system. The supplemental water is comprised of City potable supply, a majority of which is presently derived from import sources. This practice is not sustainable and can be likened to a leaking water pipe. Left unchecked, the use of supplemental potable water for this purpose could exceed 255 AFY or approximately 7,672 AF over the 30 year life span of the proposed Water-Energy Grant project.

To correct this situation, and permanently eliminate the non-sustainable use of import and potable supplemental water at the SMURRF, the City proposed an innovative project that would harvest, advance treat via reverse osmosis (RO), and reuse water resources that are currently wasted to the ocean or sanitary sewer. The potable water reductions would be realized by installing a commercially available modular brackish water RO container at the SMURRF, and a brackish water extraction well on the beach adjacent to the City's existing Pico-Kenter pump station. The Pico-Kenter station currently pumps runoff (storm and dry weather) to the SMURRF for treatment through an in-place pipeline. With the proposed SMURRF system updates, and the use of existing reclaimed water infrastructure, the City can eliminate once and for all the use of potable supplemental water at SMURRF, and take another important step towards its goal of eliminating all import water from its water portfolio by 2020. The elimination of potable water use at SMURRF will be documented by either installing a meter and reporting the readings to the DWR on a quarterly basis as part of required Water-Energy project reporting procedures, or by permanently removing or capping the existing potable water supply pipe at the SMURRF.

Another significant benefit that will result from the project is that, with proper approvals, the City will for the first time be able to utilize the advanced treated water created at SMURRF for indirect reuse. Specifically, the City would re-inject some of the advance treated water back into the City's drinking water aquifers in order to help offset planned future groundwater withdrawals and/or to prevent salt water intrusion into these same aquifers. This example of conjunctive reuse will also help the City eliminate still more imported water from its annual need and move the City towards its stated goal of using no imported water by 2020. To maximize the project water-energy nexus, the proposed project includes solar panels to offset some of the energy required to operate the RO container and to further reduce GHG emissions. As noted in our grant package, the project also presents excellent opportunities as a teaching platform for local schools and

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universities. Importantly, the concept of modular distributed water treatment technologies linked by telemetry (e.g. SCADA) that will be pilot tested here could be immediately transferable to other parts of the State where some disadvantaged communities are struggling to provide safe drinking water for their residents. Having a tangible facility with these capabilities to view could inspire other agencies to implement similar projects to the benefit of all. To facilitate the Department's review of these clarifying details we have attached Figures #3, 4, 6, 8, and 9 from Attachment 3 of our recent grant application package. Figure #3 is an aerial view of the proposed project area. Figure #4 shows where the brackish water RO container would be located at the existing SMURRF. Figure #6 shows a close up of the existing Pico-Kenter pump station, the proposed location of the brackish water extraction well. Figure #8 and 9 present the locations of the proposed solar panels for the project.

Please don't hesitate to e-mail me at tom.watson@smgov.net, or call me at 323-823-2324, should you have any additional questions, or if we can be of assistance in any way. We look forward to hearing from you.

Sincerely,

Tom Watson, P.G. #7129
Coordinator,
Water Resources Protection Program

C.C: Susan Cline, Interim Director, Public Works Department
Gil Borboa, Manager, Water Resources Division

Attachments: Figures #3, 4, 6, 8, and 9

Aerial View of Proposed Project Area

Figure 3

Containerized BWRO Addition At SMURRF

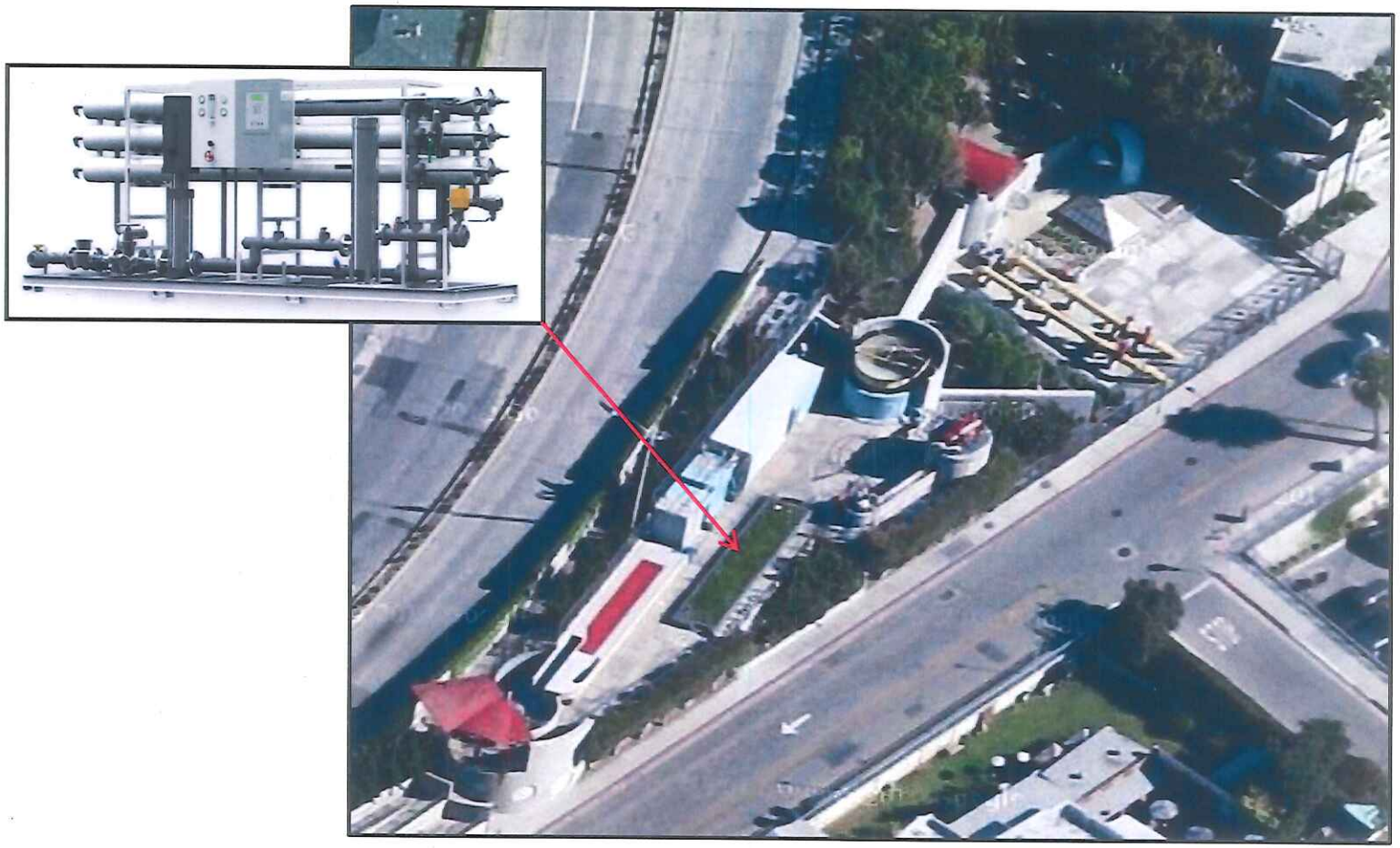

Figure 4

Proposed Location
Pico-Kenter Angle-Drilled
Brackish Water Extraction Well

Project Area Well Head Bottom Hole Location

Figure 6

Proposed Project Solar Panel Locations

Figure 8

Proposed Project Solar Panel Locations

Figure 9